

**REMARKS**

Claims 1-13 are all the claims pending in the application. Applicants are amending claim 8 and the specification. Applicants are adding new claims 12-13.

In response to the Examiner's objection to the drawings, Applicants are submitting proposed drawing corrections for the Examiner's review and approval. Applicants respectfully request a status from the Official Draftsperson as to the original drawings filed on November 19, 2001.

Applicants thank the Examiner for acknowledging a claim for priority under 35 U.S.C. § 119(a)-(d) or (f) and further for acknowledging receipt of all certified copies of the priority documents.

This Amendment is believed to be fully responsive to each point of objection and rejection raised by the Examiner in the Non-Final Office Action dated March 14, 2001. Accordingly, Applicants respectfully request favorable reconsideration and allowance of the pending claims.

**Rejection of Claims 1-3 under 35 U.S.C. § 103(a) - Coles and Batten**

The Examiner has rejected claims 1-3 under 35 U.S.C. § 103(a) as being unpatentable over Coles et al. (U.S. Patent No. 5,994,807; hereinafter Coles) in view of Batten et al. (U.S. Patent No. 5,770,902; hereinafter Batten). Applicants respectfully traverse this rejection.

Coles and Batten, individually or in combination fail to disclose or suggest the present invention. The embodiments of Applicants' invention are directed towards reducing the number of component members and workability in assembling the component members, while enabling miniaturization of the entire motor. The problems addressed in Coles and Batten and the advantages that Coles and Batten provide are unlike that of Applicants' invention. Moreover, the combination of Coles and Batten do not provide the advantages described in Applicants' specification.

With regard to claim 1, the Examiner acknowledges the deficiencies of Coles, however, indicates that Batten compensates for these deficiencies. Batten discloses a plurality of Hall effect sensors 26 to continuously sense the position of rotor 16 and send this rotor position information to an electronic control (not shown). (Column 4, lines 14-19 of Batten). Batten further discloses and illustrates in Figures 1 and 2, that an annular holder 28 having a plurality of notches 29 properly positioned in an annular wall 31 thereof is preferably utilized to contain a body 25 of sensors 26 therein. (Column 4, lines 19-22). Batten notes that it is important that the Hall effect sensors 26 be properly positioned within motor 10 so that they align with the poles of field magnets 18, whereby they can provide accurate positioning information for rotor 16. Batten ensures proper alignment of the Hall effect sensors by having the termination board 30. (See column 2, line 66 through column 3, line 2 of Batten).

The position of the claimed rotation sensor is equally important. As disclosed, one of the advantages of the rotation sensor 15 positioned outside the bracket 32 and covered with the housing 60 is so that additional components (i.e. rear bracket 12 and a watercap 16) become

unnecessary. (Page 8 , second full paragraph of Applicants' specification). Claim 1 recites "*a rotation sensor provided on said bracket at one side of bracket side bearing near said housing....*"

Maintaining the position of the Hall effect sensor 26, as disclosed in Batten with respect to electric motor 20 is not attainable. While the Examiner has failed to identify a bracket in Coles which corresponds to "*said bracket*" recited throughout claim 1, Applicant assumes that the Examiner is referring to Figures 2-4. Bearing 43 appears to be disposed on a bracket.

The architecture of Hall effect sensors 26, annular holder 28 having a plurality of notches, leads 27 from each sensor 26 extend through annular holder 28 so they may be connected to first stamping 32 (Column 4, lines 14-32 of Batten) and the termination board 30 prevents the transposition of Hall effect sensors 26 on the above-mentioned bracket of Coles. Applicant submits that the transposition of Hall effect sensors 26 with the electric motor 20 of Coles would require a total restructuring of the electric motor 20 of Coles. Put another way, it would be necessary to make modifications, not disclosed in the prior art, in order to combine these references in the manner suggested by the Examiner.

Additionally, Applicant submits that the Hall effect sensors 26 of Batten would not be near cylindrical housing 25 as required in claim 1. Rather, the sensors 26 would be near the gearbox 22 of Coles. As stated above, one of the advantages of the claimed rotation sensor positioned near the housing is so that the number of components of a motor can be reduced.

Further, Applicants disagree with the Examiner's reason for combining the above references. It appears that the Examiner relies on column 2, lines 30-35 of Batten which states that the "primary objective of the present invention is to provide a termination board for a brushless DC motor which reduces the number of interconnections between the motor windings, the electronic control of the motor, the power leads, and the electronic components in the motor." (emphasis added).

The grounds of rejection fail to support the proposed combination because the above-mentioned passage is directed towards a termination board 30, not the Hall effect sensors 26. More particularly, Batten states another objective, which is "to provide a termination board for a brushless DC motor which promotes proper alignment of Hall effect sensors with the field magnets of the rotor." (Column 2, line 66 through column 3, line 2 of Batten). Again, Batten discloses the importance of the termination board 30, not the Hall effect sensors 26.

"There must be some reason, suggestion, or motivation found in the prior art whereby a person of ordinary skill in the field of the invention would make the combination." MPEP §2143 (8<sup>th</sup> Edition); In re Oetiker, 977 F.2d 1443, 24 U.S.P.Q.2d 1443 (Fed. Cir. 1992). The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. MPEP §2143.01 (8<sup>th</sup> Edition); In re Mills, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990). Applicants submit that the Examiner has failed to provide some reason, suggestion, or motivation found in the prior art whereby a person of ordinary skill in the field of the invention would combine Coles with Batten

in the manner suggested by the Examiner. Coles and Batten are references that are complete and functional in themselves, so there would be no reason to add parts to either reference.

For the reasons above, Applicants submit that claim 1 contains patentable subject matter over the prior art of record. Thus, Applicants respectfully request that this rejection be withdrawn.

Claims 2 and 3 are patentable at least by virtue of their dependency on claim 1, as well as containing their own patentable subject matter over the prior art of record.

**Rejection of Claims 4, 5 and 11 under 35 U.S.C. § 103(a) - Coles, Batten and Yamada**

The Examiner has rejected claims 4, 5 and 11 (incorrectly enumerated as 1-5 and 11) under 35 U.S.C. § 103(a) as being unpatentable over Coles and Batten as applied to claim 3, and in further view of Yamada (U.S. Patent No. 5,801,465; hereinafter Yamada). Applicants respectfully traverse this rejection.

Yamada fails to compensate for the deficiencies of Coles and Batten with respect to claim 1. Therefore, claims 4, 5 and 11 are patentable at least by virtue of their dependency on claim 1, as well as containing their own patentable subject matter over the prior art of record. Applicants respectfully request that this rejection be withdrawn.

**Rejection of Claims 6-10 under 35 U.S.C. § 103(a) - Coles Batten and Hirose**

The Examiner has rejected claims 6-10 (incorrectly enumerated as 6-11) under 35 U.S.C. § 1039a) as being unpatentable over Coles and Batten as applied to claim 1, and in further view of Hirose et al. (U.S. Patent No. 5,793,132; hereinafter Hirose). Applicants respectfully traverse this rejection.

Hirose fails to compensate for the deficiencies of Coles and Batten with respect to claim 1. Therefore, claims 6-10 are patentable at least by virtue of their dependency on claim 1, as well as containing their own patentable subject matter over the prior art of record. Applicants respectfully request that this rejection be withdrawn.

Amendment under 37 C.F.R. § 1.111  
U.S. Application No. 09/988,277

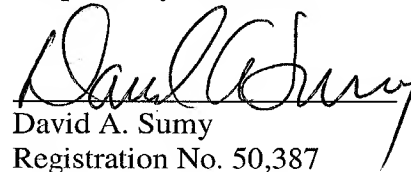
Attorney Docket No. Q66911

**Conclusion**

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned attorney at the telephone number listed below.

Applicants hereby petition for any extension of time which may be required to maintain the pendency of this case, and any required fee, except for the Issue Fee, for such extension is to be charged to Deposit Account No. 19-4880.

Respectfully submitted,

  
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**APPENDIX**

**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**IN THE SPECIFICATION:**

**The specification is changed as follows:**

**Page 9, fourth full paragraph:**

The signal wires 51 in the multi-wire cable 52 are arranged substantially in a row~~row~~. In this connection, it ~~is~~ to be noted that in cases where the signal wires 51 are arranged in such a manner that one of them is positioned at the center and surrounded by the remaining ones, as shown in Fig. 8, the sealing material 53 is not able to reach the central signal wire and fill its surrounding space to any satisfactory extent. In contrast to this, however, the multi-wire cable 52 of this embodiment arranged in the above manner as shown in Fig. 7 does ~~not~~ have sufficient sealing material 53 surrounding the central signal wires~~such a fear~~.

**IN THE CLAIMS:**

**Claim 8 is amended as follows:**

8. (Amended) The motor according to claim 7, wherein said respective sensor signal wires at their at their ends connected with said connector are arranged in a row~~row~~.

**Claims 12 and 13 are added as new claims.**